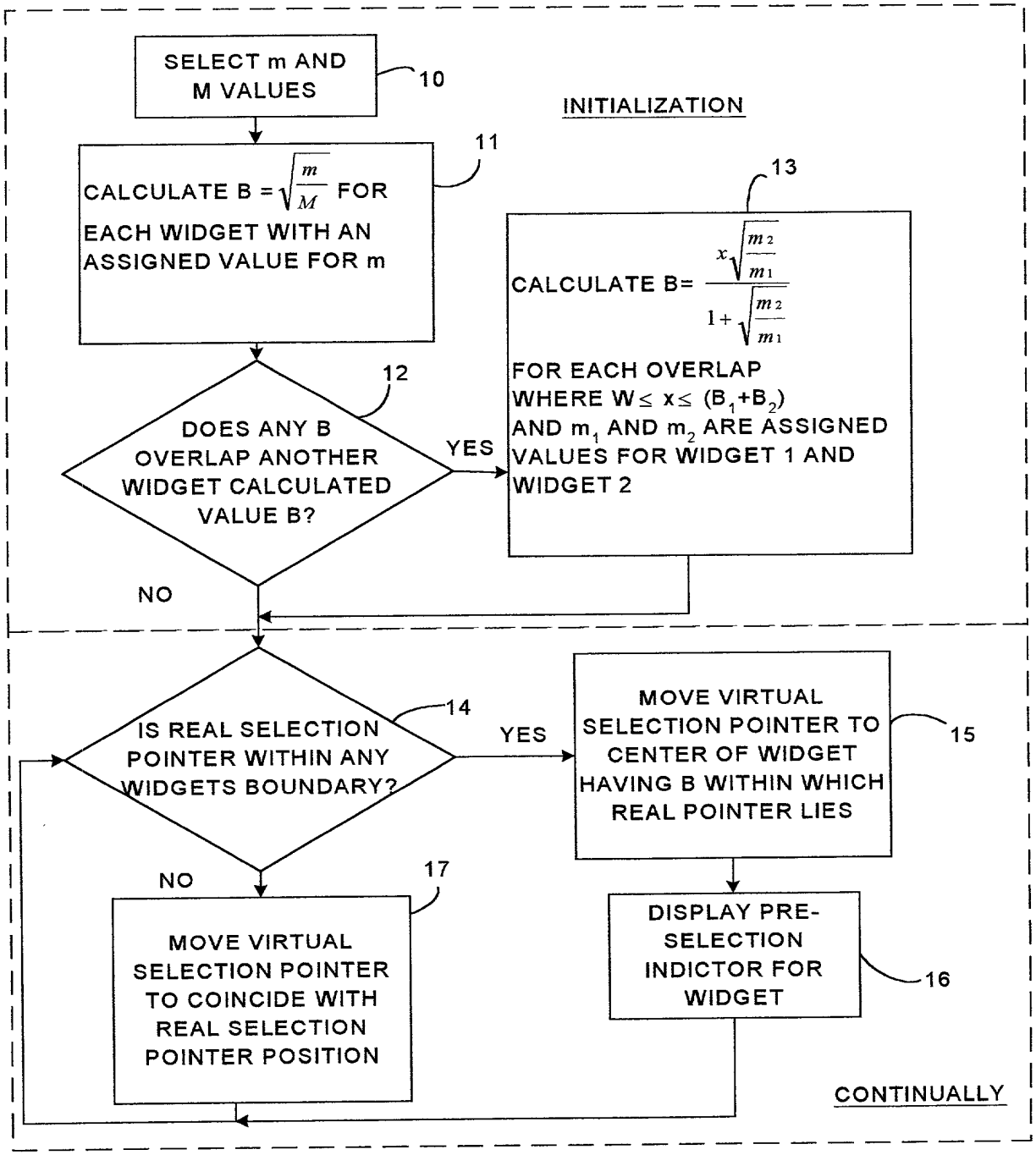
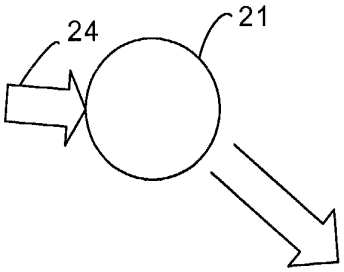

SELECT m AND M VALUES
10
INITIALIZATION
CALCULATE B = $\sqrt{\frac{m}{M}}$ FOR EACH WIDGET WITH AN ASSIGNED VALUE FOR m
11
13
CALCULATE B= $\frac{x\sqrt{\frac{m_2}{m_1}}}{1+\sqrt{\frac{m_2}{m_1}}}$
FOR EACH OVERLAP WHERE W≤ x≤ (B_1+B_2) AND m_1 AND m_2 ARE ASSIGNED VALUES FOR WIDGET 1 AND WIDGET 2
12
DOES ANY B OVERLAP ANOTHER WIDGET CALCULATED VALUE B?
YES
NO
14
IS REAL SELECTION POINTER WITHIN ANY WIDGETS BOUNDARY?
YES
MOVE VIRTUAL SELECTION POINTER TO CENTER OF WIDGET HAVING B WITHIN WHICH REAL POINTER LIES
15
NO
17
MOVE VIRTUAL SELECTION POINTER TO COINCIDE WITH REAL SELECTION POINTER POSITION
DISPLAY PRE-SELECTION INDICTOR FOR WIDGET
16
CONTINUALLY

FIG. 1


24
21

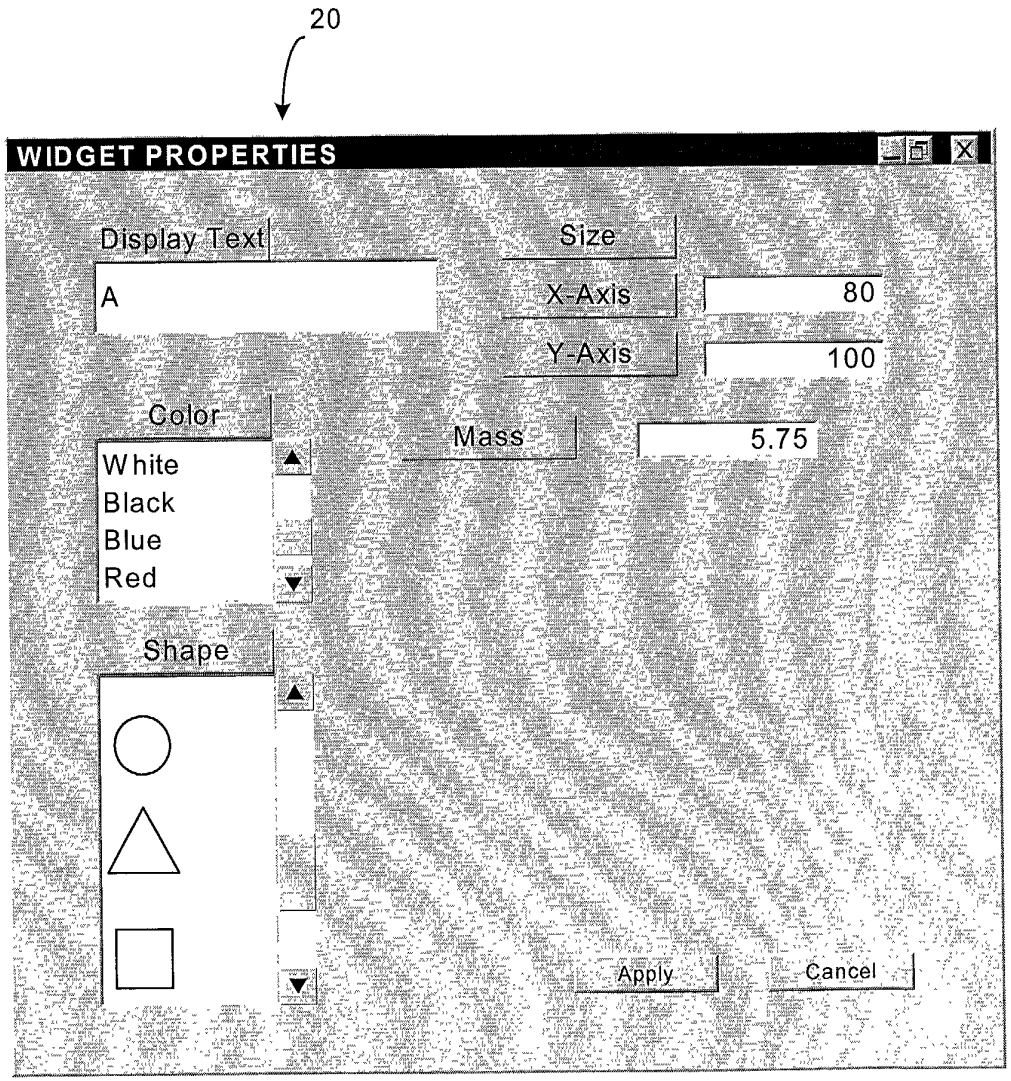

20
WIDGET PROPERTIES
Display Text
A
Size
X-Axis
80
Y-Axis
100
Color
White
Black
Blue
Red
Mass
5.75
Shape
Apply
Cancel

FIG.2

FIG. 3A

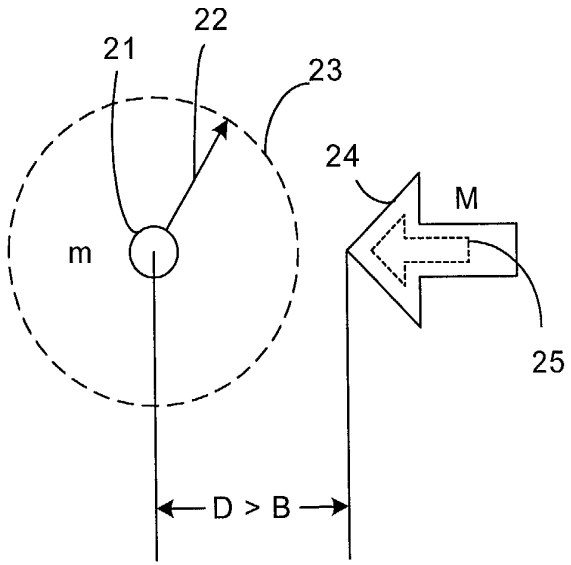


FIG. 3B

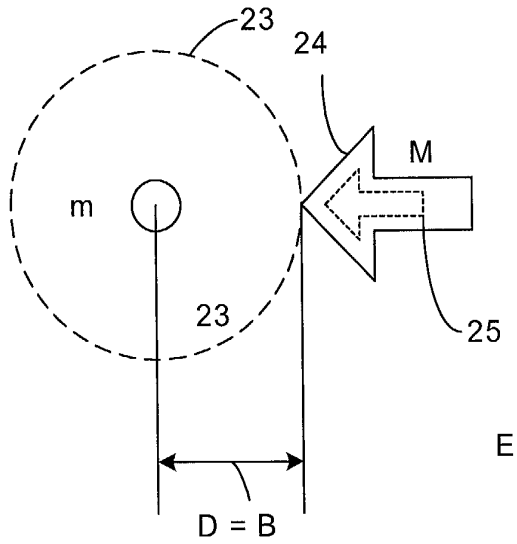
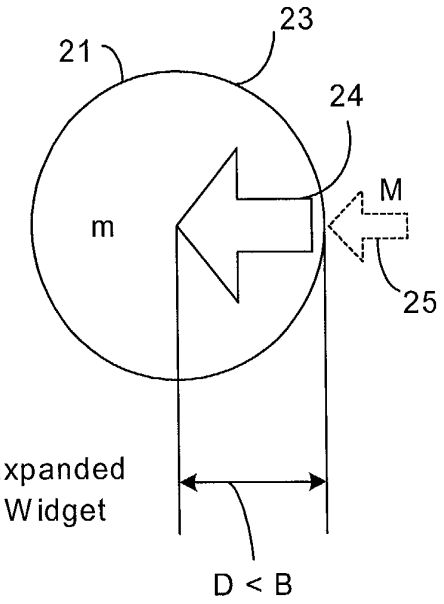


FIG. 3C



= DISPLAYED SELECTION POINTER (VIRTUAL POINTER)

= REAL PHYSICAL SELECTION POINTER POSITION (REAL POINTER)

FIG. 4

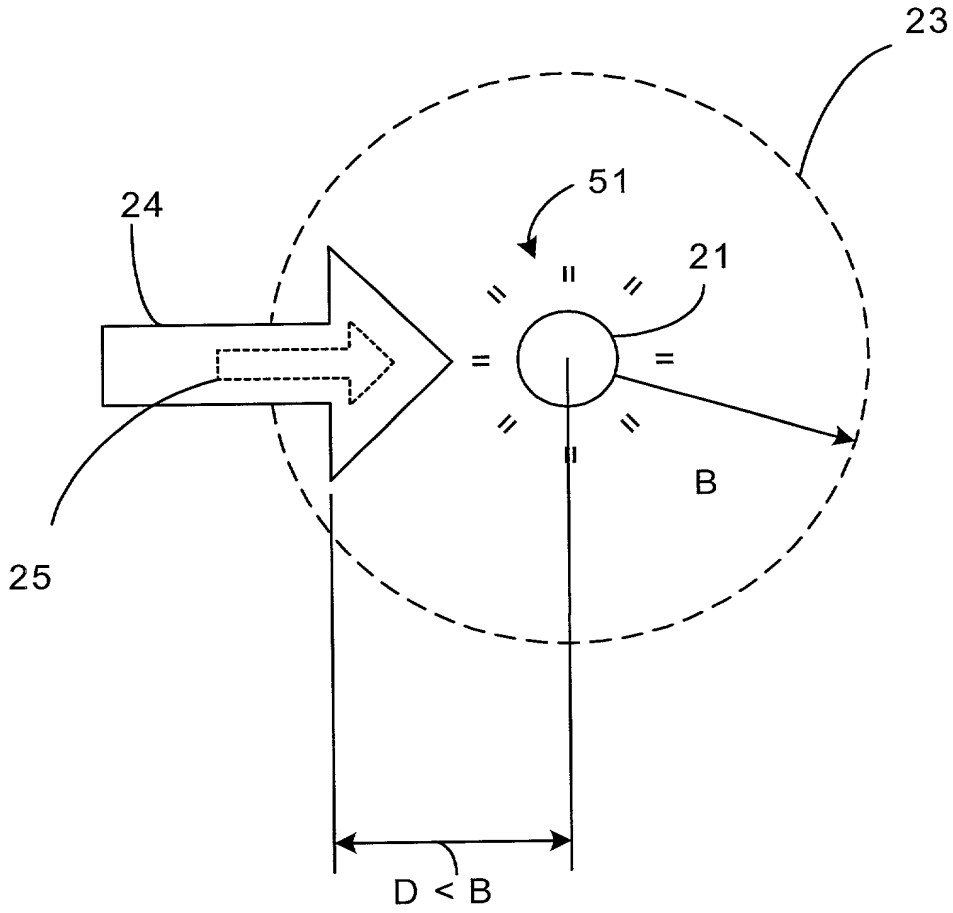
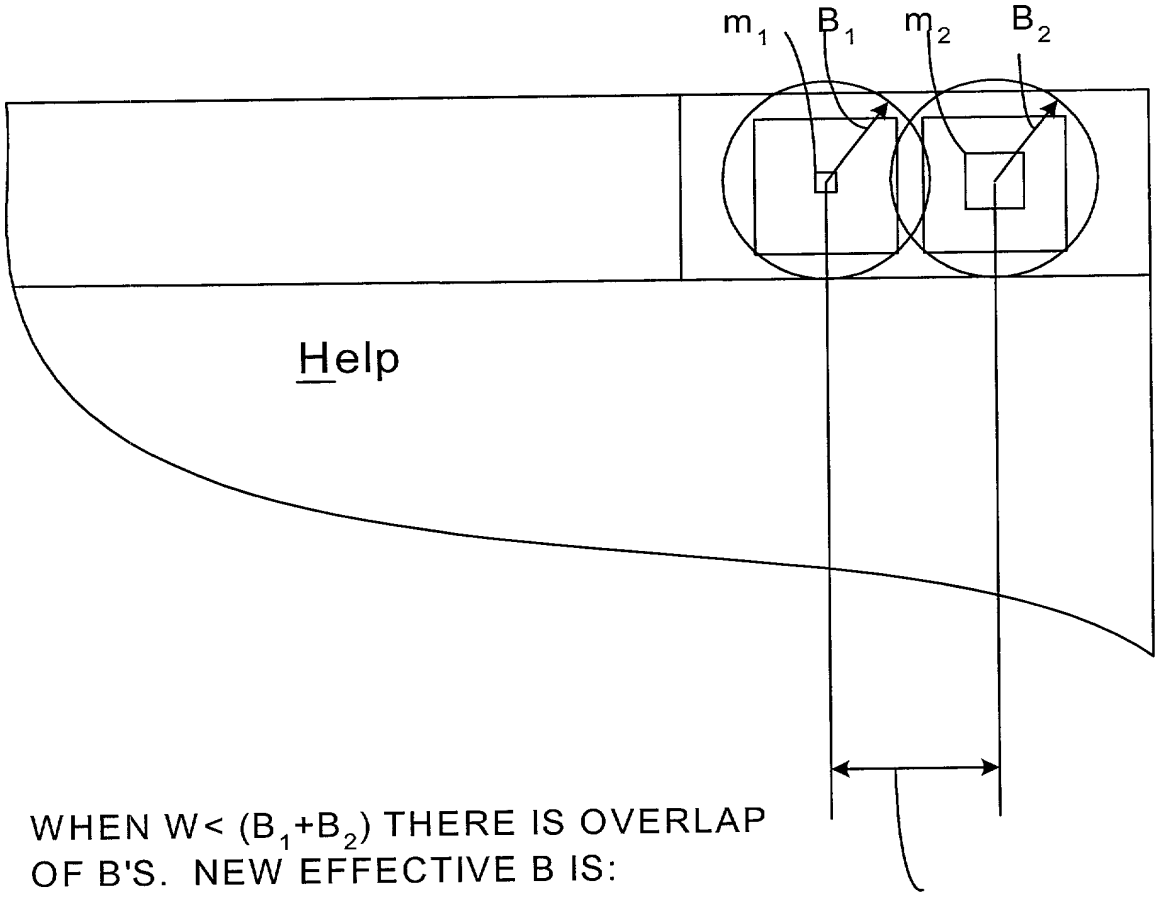


FIG. 5



WHEN W< (B_1+B_2) THERE IS OVERLAP OF B'S. NEW EFFECTIVE B IS:

$$B = \frac{x\sqrt{\frac{m_2}{m_1}}}{1+\sqrt{\frac{m_2}{m_1}}}$$

WHERE $W \leq x \leq (B_1+B_2)$

W< $(B_1 + B_2)$

FIG. 6A

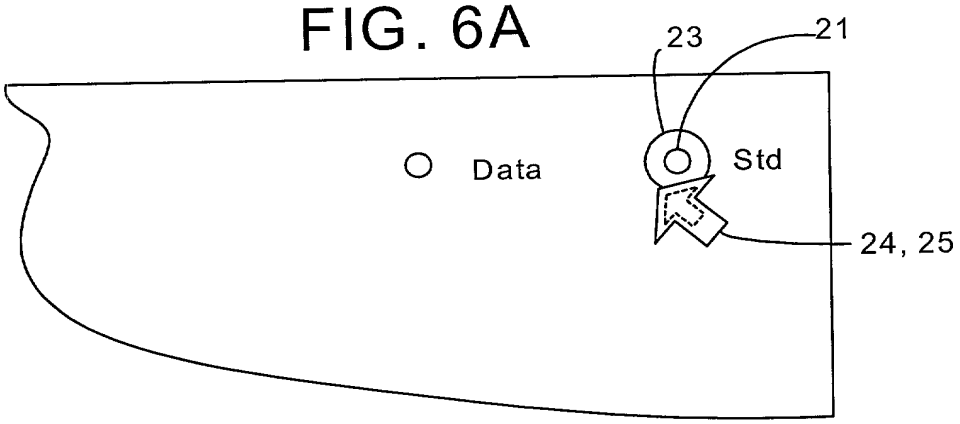


FIG. 6B

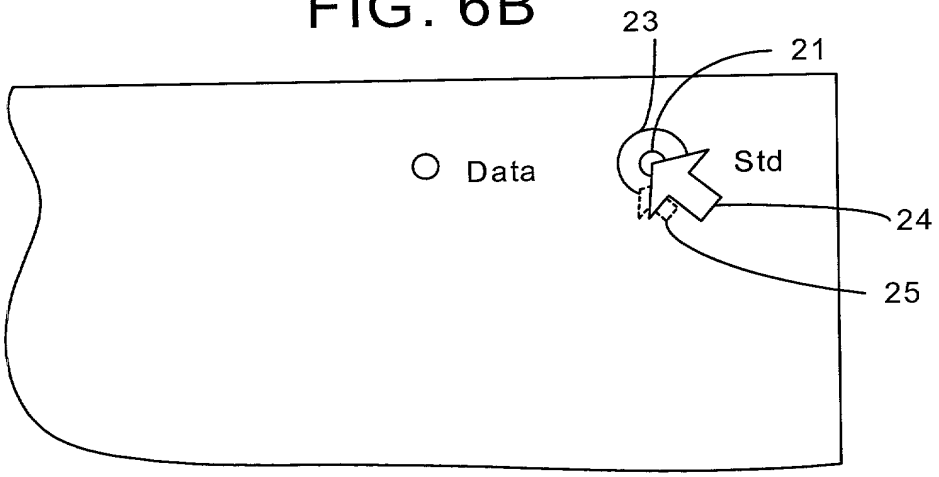
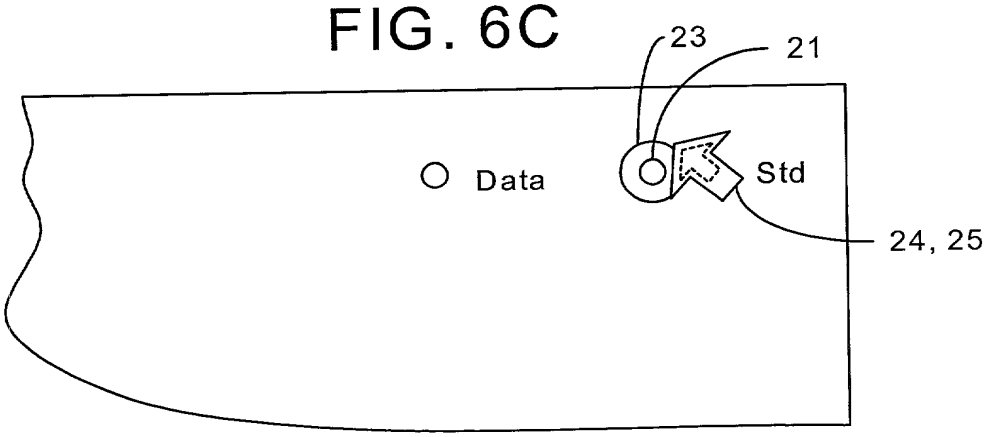


FIG. 6C



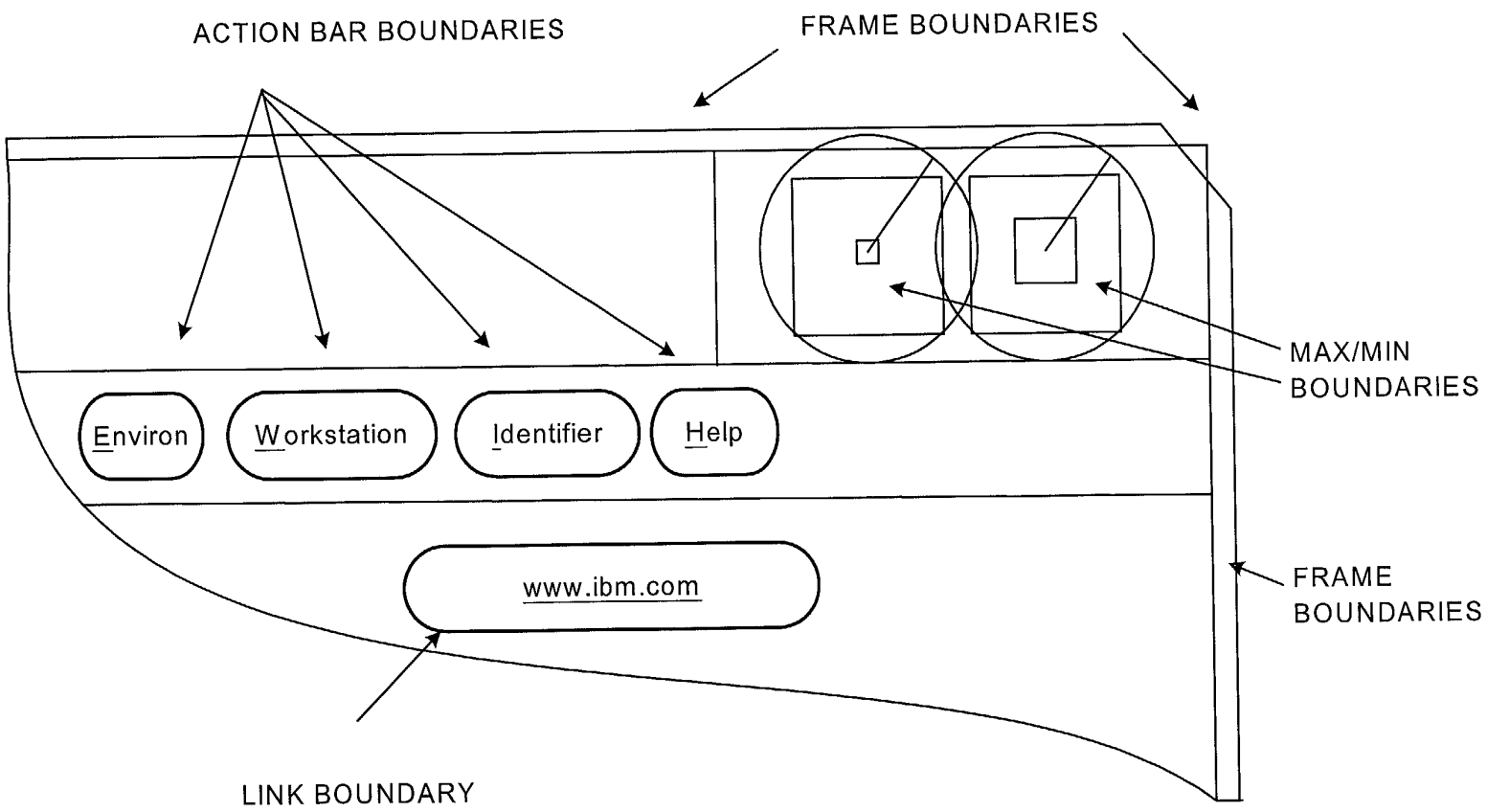

ACTION BAR BOUNDARIES
FRAME BOUNDARIES
MAX/MIN
BOUNDARIES
Environ
Workstation
Identifier
Help
www.ibm.com
FRAME
BOUNDARIES
LINK BOUNDARY

FIG. 7

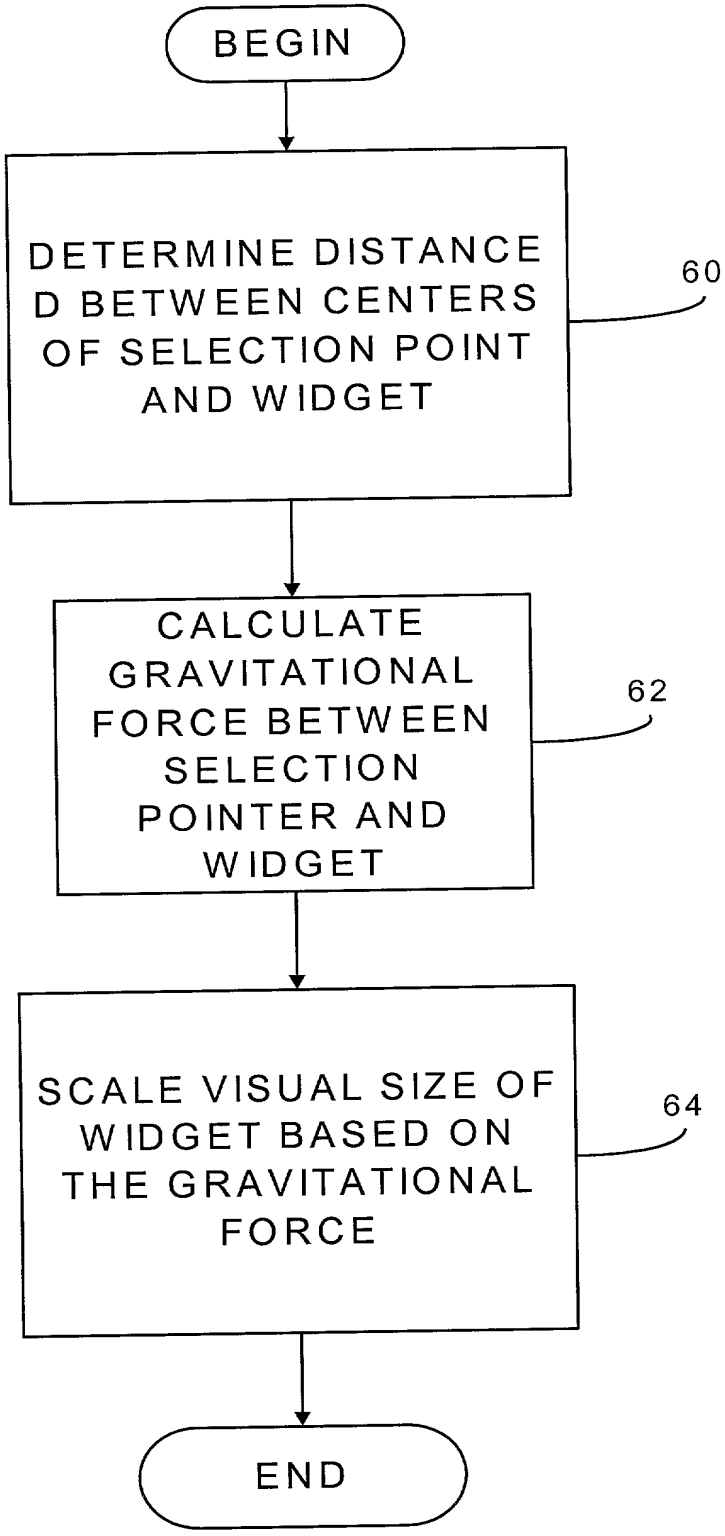

BEGIN
DETERMINE DISTANCE D BETWEEN CENTERS OF SELECTION POINT AND WIDGET
60
CALCULATE GRAVITATIONAL FORCE BETWEEN SELECTION POINTER AND WIDGET
62
SCALE VISUAL SIZE OF WIDGET BASED ON THE GRAVITATIONAL FORCE
64
END

FIG. 8

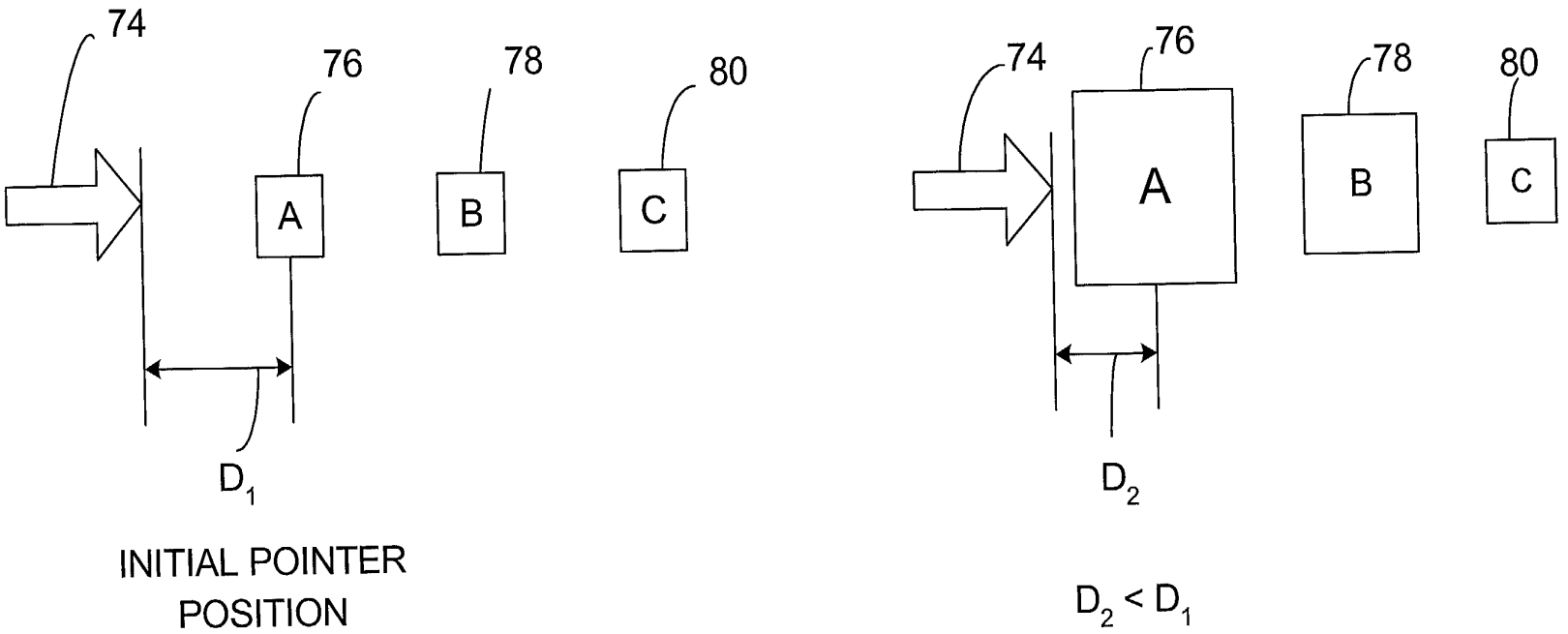

74
76
78
80
A
B
C
D_1
INITIAL POINTER POSITION
74
76
78
80
A
B
C
D_2
$D_2 < D_1$

FIG. 9

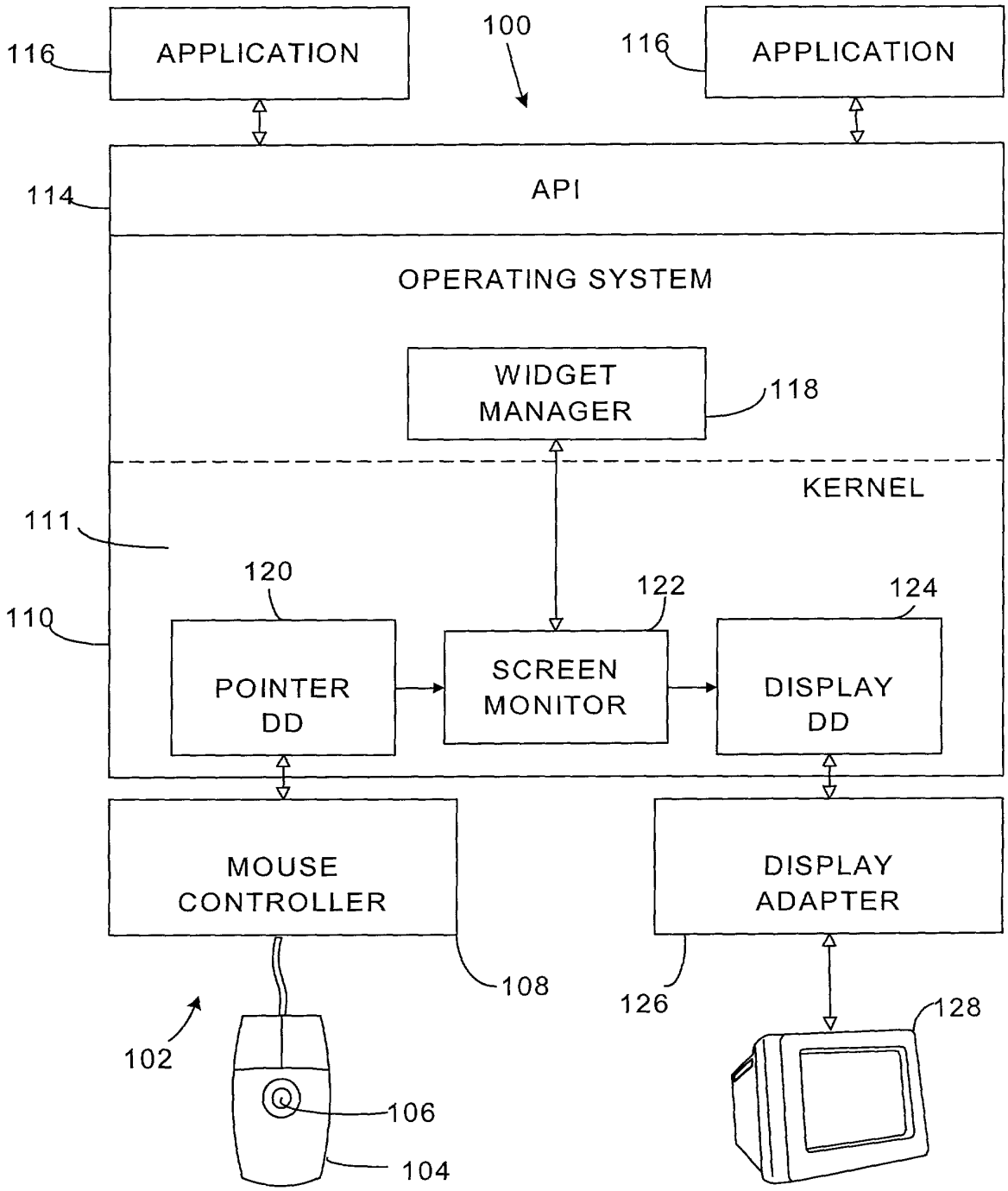

116
APPLICATION
100
116
APPLICATION
114
API
OPERATING SYSTEM
WIDGET MANAGER
118
KERNEL
111
120
122
124
110
POINTER DD
SCREEN MONITOR
DISPLAY DD
MOUSE CONTROLLER
DISPLAY ADAPTER
108
126
128
102
106
104

FIG. 10